

# Summary of work done

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# Inaugural Booster studies with guests

- Booster studies with guests this week and next
  - Guests from CERN
    - Frank Schmidt
    - Hannes Bartosik
    - Angela Hernandez
    - Alexander Huschauer
  - More guests will be coming tomorrow and next week from CERN, Radisoft and GSI.

## Status of PSP projects

Machine	Description	People	Status
Pre-Acc	Improve neutralization in LEBT with N or Xe.	Dan/Pat	See today's talk
Pre-Acc	Penning source from RAL is in Illinois!	Haider/Dan/Pat	Finally shipped from UK.
Pre-Acc	Laser collimation of head/tail of longitudinal beam. (LDRD)	Dave	In contact with vendor for selection of optical engine.
Pre-Acc/Linac	Simulation of PreAcc + Linac	Valeriy/Kiyomi/Dan	Permanent magnets being considered.
Pre-Acc/Linac	Re-aligned RFQ	Kiyomi/Dan/Pat	See today's talk
Booster	Flat injection porch	Bill/Kiyomi/George/ Howie/Chris	Studies on 31 May. More studies required to fix amplitude jitter.
Booster	Adiabatic capture	Chandra/Tan	Studies on 31 May. Showed how neck can removed. However, phase oscillations still need to be tuned out.
Booster	2 <sup>nd</sup> harmonic	Robyn/Tan	HA has been done. ORC waiting for safety approval (18 June)
Booster	Wide bore cavities	Salah/Matt	Shimming flanges to connect tuners.
Booster	2 stage collimators	Valeriy/Chandra	Had meeting on 12 Dec 2018 to decide on the length of the primary collimator. Work to see amount of shielding needed for tritium control in sump water.
Booster	Injection girder and injector civil construction to Booster	Dave/Salah/ Tan	Hall probe results show 1-2 gauss of field on top, 3 gauss on edge of D magnet. ORBMP review (30 May) was successful. More clarification of lattice and required data (18 June). Civil engineering still needs more clarity.
Booster	Garnet loss improvements	Robyn/Tan/Iouri/ Gennady	19 June meeting. New ideas as to how to mount garnet in transmission line. Need analytic solution for CST preprocessing.
Booster	Mode 2 longitudinal damper	Nathan	Victor and John did studies on 31 May to characterize mode 2 from cavity signals.
LLRF	GMPS machine learning (get rid of reference magnet)	Bill/Brian/Kiyomi	Got task codes (05 Apr). Work to start soon.
LLRF	Complete DDS upgrade, paraphase controller	Brian/Ed	31 May studies. Problems with loading code into VME controller.
LLRF	Phase feedback	Brian/Ed/Bill/Tan/ Valeri/Craig	Ed is nearly done with a first pass of the phase feedback at injection. Meet soon to discuss next step.

# House keeping

Machine	Description	i/c	Comments
Linac	7835	Kiyomi	Will visit Photonis (Kiyomi, Tan and Bill). Waiting for security approval
Linac	Klystron refurbishment	Kiyomi/Bill/ Tan	Will visit L3. Waiting for security approval. Restrictions to foreigners seeing the klystron.
Linac	Linac gallery HVAC	Kiyomi	HVAC units will arrive at end of month. Water connections being made. Have to be completed before startup again.
Booster	BPM	Salah/Peter	Declared success on 8 March. Snapshot still needs work. TBT mostly ok.
Booster	Longitudinal coupled bunch mode dampers	Nathan/Bill	Testing continues. Frequency response firmware is done. Backup system being “monkey” tuned.